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Dennis V. Carmen

Dennis V. Carmen
Date: April 11, 2002

HH
#5
5360
PATENT
USA.01.012

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)

STEWART et al)

Serial No. 10/091262)

Filed: March 5, 2002)

ATTACHMENT OF SURFACE MOUNT
DEVICES TO PRINTED CIRCUIT BOARDS
USING A THERMPLASTIC ADHESIVE)

Group Art Unit: Unknown

Examiner: Unknown

April 11, 2002

ASSISTANT COMMISSIONER FOR PATENTS
Washington, DC 20231

Sir:

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR 1.56 AND 1.97

It is respectfully requested that the documents listed on the attached Form PTO-1449 be considered by the Patent and Trademark Office in the above-entitled application and made of record therein. Full text copies of the relevant documents are enclosed.

The Examiner is requested to indicate consideration of this art on the attached PTO-1449 (Modified) by initialing next to each item submitted by the applicant.

Respectfully submitted,

Dennis V. Carmen

Dennis V. Carmen
Registration No. 35, 007
(713) 241-3554

FORM PTO-1449 (Modified for Citation of Foreign
Cited References)ATTY. DOCKET NO.
USA.01.012SERIAL NO.
10/091262LIST OF INFORMATION PROVIDED
BY APPLICANT
APR 15 2002

(Use several sheets if necessary)

APPLICANT
STEWART, et alFILING DATE
March 5, 2002GROUP
Unknown

REFERENCE CITATION

U.S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date*	Patentee	Date* Cited in Foreign Patent Office
	AA	5,930,889	8/3/1999	Klein	
	AB	6084781	7/4/2000	Klein	
	AC	6238223	5/29/2001	Cobbley	
	AD	5061549	10/29/1991	Shores	
	AE	5372883	12/13/1994	Shores	
	AF	6297560	10/02/2001	Capote et al	
	AG	6265776	7/24/2001	Gilleo	

FOREIGN PATENT DOCUMENTS

		Document No.	Country	Date*	Date* Cited in Foreign P.O.	English Translation Yes No
	FA					
	FB					

OTHER PUBLICATIONS (AUTHOR, TITLE, DATE*, PLACE OF PUBLICATION, PERTINENT PAGES)

			Date* Cited in Foreign P.O.	English Translation Yes No
	PA	Adamson, S.J., "CSP and flip chip underfill," Advanced Packaging, June 2001, pp. 37-44.		
	PB	Johnson, Zane, "BGA Underfills" Advanced Packaging, December 2001, pp. 29-33		
	PC	Alpha Microelectronic: Staystik Adhesive for Mag Heads, [internet]Retrieved on December 19, 2001, URL:www.us-tech.com/april99/prods/cmp/cmp016.htm		
	PD	Center for Advanced Vehicle Electronics, "Ball Grid Array Reliability" [Internet] Retrieved on January 8, 2002, URL:www.eng.auburn.edu/departement/ee/cave/bgareliability.html		
	PE	Brofman, P.J., "Effect of Underfill Properties on Flip Chip Plastic BGA (FC-PBGA) Reliability," IPC, Session P-MT1/5-(1-5); Presented at Apex 2000, March 14-16, 2000; Long Beach Convention Center, Long Beach, CA		

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through
citation if not in conformance and not considered. Include copy of the form with next communication to Applicant.

- The attached cited information should not be construed as an admission that any of the above items are prior art
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AH	5783867	7/21/1998	Belke, et al	
AI	6177728	1/23/2001	Susko, et al	
AJ	5401536	3/28/1995	Shores	

OTHER PUBLICATIONS (AUTHOR, TITLE, DATE*, PLACE OF PUBLICATION, PERTINENT PAGES)

			Date* Cited in Foreign P.O.	English Translation	
				Yes	No
PF	Adamson, Steven J, "When to Underfill Chip Scale Packages, Design Consideration for Portable Electronic Applications," IPC, Session P-AD2/2-(1-8); Presented at Apex 2000, March 14-16, Long Beach Convention Center				
PG	Ghaffarian, R., "Impact of CSP Assembly Underfill Reliability," IPC, Session P-AD2/3-(1-7); Presented at Apex 2000, March 14-16, Long Beach Convention Center				
PH	Yaeger, E., "Beyond Flip-Chip, Underfills Enhance CSP Reliability," Chip Scale Review, March 2001, pp. 61-66				
PI	Katze, D., "Evaluations of No-Flow Fluxing Underfills with BGA, CSP and Flip Chip on Board Assemblies," IPC, Session P-MT1/2-(1-7), Presented at Apex 2000, Long Beach Convention Center				
PJ	Gilleo, K., "Thermoplastic Die Attach Adhesive for Today's Packaging Challenges," [internet] URL: http://www.cooksonsemi.com/tech_art/staystik.htm				
PK	Hannan, N., "Critical Aspects of Reworkable Underfills for Portable Consumer Products," 2001 Electronic Components and Technology Conference, 2001 IEEE, pp 181-187				
PL	Chapter C: Conductive Polymers, Level 1: Introduction [internet], last updated on 2000-09-07; URL: http://extra.ivf.se/ngl/C-polymerBonding/ChapterC.htm				
PM	Kristiansen, H., "Adhesives in Electronics," Chalmers Tekniska Hogskola, SINTEF Microelectronics; Presented at International Microelectronics and Packaging Society, Flipchip Technology Workshop, June 18-20, 2001				
PN	Tong, Q., "Novel Fast Cure and Reworkable Underfill Materials," 1999 Electronic Components and Technology Conference, 0-7803-5234-3/99, 1999 IEEE, pp.				

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			Date* Cited in Foreign P.O.	English Translation	
				Yes	No
	PO	Nguyen, L., "Reworkable Flip Chip Underfill-Materials and Processes," Proc. IMAPS International Symposium on Microelectronics, pp. 707-713 (1998).	.		
	PP	Gilleo, K., "The Great Underfill Race," [internet] URL: http://www.cooksonsemi.com/tech_art/polysolder.htm	.		
	PQ	Gilleo, K., "Wafer-Level Flux Underfill: Underflip," Presented at Apex 2000, March 14-16, 2000; Long Beach Convention Center; Session P-MT1/4-(1-5)	.		
	PR	Thorpe, R., "Low Cost Flip Chip Processing Utilizing No Flow Underfill Materials," Presented at Apex 2000, March 14-16, 2000; Long Beach Convention Center; Session P-AP3/3-(1-8)	.		
	PS	Hackett, S., "A No-flow Underfill With Excellent Reliability Performance," IMAPS Flip Chip 2001 Austin, Texas June 18 - 19, 2001	.		
	PT	Suzuki, O., "Research on the Development of Advanced Non Conductive Paste (ANCP), Imaps Conference on Flip Chip Technology in Austin, Texas; June 18-19, 2001	.		
	PU	PRC Research Project Summaries, Flip Chip Assembly Thrust, [internet] Obtained October 31, 2001, URL: www.ee.gatech.edu/research/PRC/research/projsummary/asm.htm	.		
	PV	Emerson, J., "Techniques for Determining the Flow Properties of Underfill Materials," 1999 electronic Components and Technology Conference, 0-7803-5234-3/99	.		
	PW	Fine, P., "Flip Chip Underfill Flow Characteristics and Prediction," 1999 Electronic Components and Technology Conference, 0-7803-5234-3/99	.		
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			Date* Cited in Foreign P.O.	English Translation	
				Yes	No
	PX	The National Technology Roadmap for Electronic Interconnections, Part C-Section 1-Package Style and Physical Attributes, Roadmap 2000/2001; C1-6	.		
	PY	The National Technology Roadmap for Electronic Interconnections, Part D-Section 1-Organic Interconnecting Structures, Roadmap 2000/2001; D1-15	.		
	PZ	Goyal, S, "Role of Shock Response Spectrum in Electronic Product Suspension Design," The International Journal of Microcircuits and Electronic Packaging, Volume 23, Number 2, Second Quarter 2000, pp 182-190	.		
	PAA	Yamaji, Y., "A proposal: the Assessing Method of the CSP's Mechanical Reliability on Board," The International Journal of Microcircuits and Electronic Packaging, Volume 23, Number 1, First Quarter 2000, pp 138-145	.		
	PBB	Goyal, S, "Methods for Realistic Drop-Testing," The International Journal of Microcircuits and Electronic Packaging, Volume 23, Number 1, First Quarter 2000, pp. 45-52	.		
	PCC	Xu, K., "A General Purpose Adhesive for Microelectronic Devices," The International Journal of Microcircuits and Electronic Packaging, Volume 23, Number 1, First Quarter 2000, pp. 78-84	.		
	PDD	Seppala, A, "Flip Chip Joining on GR-4 Substrate Using ACFs," The International Journal of Microcircuits and Electronic Packaging, Volume 24, Number 2, Second Quarter 2001, pp. 148-159	.		
	PCC	Swirbel, T., "Chip Scale Package and Multichip Module Impact on Substrate Requirements for Portable Wireless Products," The International Journal of Microcircuits and Electronic Packaging, Volume 23, Number 3, Third Quarter 2000, pp. 320-324	.		
	PDD	Gilleo, K., "Thermoplastic Adhesives-The Attachment Solution For Multichip Modules," [internet] URL: http://www.cooksonsemi.com/tech_art/staystik.htm	.		

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			Date* Cited in Foreign P.O.	English Translation	
				Yes	No
	PEE	Gilleo, K., "New Generation Underfills Power The 2 nd Flip Chip Revolution," [internet] URL: http://www.cooksonsemi.com/tech_art/polysolder.htm	,		
	PFF	Hung, S.C., "Board Level Reliability of Chip Scale Packages," The International Journal of Microcircuits and Electronic Packaging, Volume 23, Number 1, First Quarter 2000, pp. 118-130	,		
	PGG	Gilleo, K., "Transforming Flip Chip into CSP with Reworkable Wafer-Level Underfill," [internet] URL: http://www.cooksonsemi.com/tech_art/staychip.htm	,		
	PHH	Gilleo, K., "The Ultimate Flip Chip-Integrated Flux/Underfill," [internet] http://www.cooksonsemi.com/tech_art/staychip.htm	,		
	PII	Preveti, M., "No Flow Underfill Reliability is Here," [internet] URL: http://www.cooksonsemi.com/tech_art/staychip.htm	,		
	PJJ	Gilleo, K., "The Chemistry & Physics of Underfill," [internet] URL: http://www.cooksonsemi.com/tech_art/staychip.htm	,		
	PKK	Harper, P., "Thermoplastic Die Attach For Hermetic Packaging," The International Journal of Microelectronics and Electronic Packaging, Vol. 17, No. 4, Fourth Quarter, 1994, pp	,		
	PLL	Gilleo, K., "Molded Underfill for Flip Chip in Package," [internet] June, 2000; URL: http://www.cooksonsemi.com/tech_art/staychip.htm	,		

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